

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

**Unit 5 Test Form B**

**43**

Solve each proportion. (2 points each)

$$\frac{b - 8}{5} = \frac{b + 3}{4}$$

$$\frac{w + 3}{4} = \frac{w}{2}$$

Find each percent of change. Describe each as a percent of increase or decrease. Round to the nearest percent. (2 points each)

22ft to 30 ft

A shirt goes on sale from \$25 to \$15.99

**Solve each problem using a proportion. (2 points each)**

A 15-ounce can of green beans is sold for \$2.05. What is the price per pound?

A scale on a map is 1 in : 12 mi. You measure 3.5 in between your house and the Bay Bridge on the map. What is the actual distance between your house and the Bay Bridge?

The ratio of boys to girls in the 7<sup>th</sup> grade is 2:5. If there are 90 students in the 7<sup>th</sup> grade, how many girls are there?

**Situation:** Suppose you walk 1 mile in 20 minutes.

Find the rate in miles per hour. (1 point)

Write a rule to describe the distance  $d$  you walk as a function of the time  $t$  you walk. (1 point)

Use the function to find how far you would walk in 4 hours. (1 point)

Solve each problem. (2 points each)

Mr. LaFleche spent \$250 on Amazon. If the sales tax is 6%, what was his final bill?

Joe transfers 7% of his monthly pay into a savings account. If Joe makes \$2895 per month, how much will he save in a year?

Solve the following simple interest problem. (2 points)

Suppose a bank is offering its customers 3% interest on savings accounts. If a customer deposits \$1500 in the account, how much interest does the customer earn in 5 years?

$I =$  \_\_\_\_\_

$p =$  \_\_\_\_\_

$r =$  \_\_\_\_\_

$t =$  \_\_\_\_\_

Please complete ALL parts of each word problem. **Pay close attention to CHOICE.**  
**(10 points each)**

A. Shaun and Joanna are on a date. Joanna leaves at 6:30pm and travels at a speed of 20mph. Shaun notices that Joanna left her credit card and leaves 45 minutes later. He travels at a speed of 30 mph. At what time does Shaun catch up to Joanna?

B. Harry Potter and Ron Weasley fly to Hogwarts in a Ford Angela at 75 mph. On the way back from Hogwarts, they take the train at a speed of 50 mph. Their train ride takes two and a half hours longer than the flying car ride. How long does it take for Harry and Ron to fly to Hogwarts? To take the train?

**a. What type of DRT Problem is this?**

**b. Write the GENERAL equation for this type of problem.**

**c. Define a variable.**

**d. Fill in the DRT Table below.**

	rate	time	Distance

**e. Using the GENERAL equation from part b and your table, WRITE an equation for the situation.**

**f. Solve the equation.**

**ANSWER THE QUESTION:**

- A. Katniss leaves district twelve on a train at 10:00am going 100 mph. Gale leaves District 12 at 11:00am going in the opposite direction going 200 mph. At what time will they be seven hundred miles apart?
- B. Beyonce and John Legend are one hundred miles apart. Beyonce leaves at eleven thirty am and drives at a speed of 60 mph to meet John at the Grammy's. John rides his bike at a speed of twenty miles per hour to the Grammy's. John leaves one hour before Beyonce. At what time will they meet up?

<b>a. What type of DRT Problem is this?</b>			
<b>b. Write the GENERAL equation for this type of problem.</b>			
<b>c. Define a variable.</b>			
<b>d. Fill in the DRT Table below.</b>			
	<b>rate</b>	<b>time</b>	<b>Distance</b>
<b>e. Using the GENERAL equation from part b and your table, WRITE an equation for the situation.</b>			
<b>f. Solve the equation.</b>			
<b>ANSWER THE QUESTION:</b>			

**Math Honor Code:** My signature certifies that this is my work. I did not give or receive help on it.

X\_\_\_\_\_